UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Christine Linke et al
Application Number:	10/540,280
Filing Date:	01/10/2006
Group Art Unit:	2841
Examiner:	Richard A. Smith
Title:	TEMPERATURE-INDICATING ELEMENT FOR A REFRIGERATION DEVICE

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Commissioner for Patents
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APPEAL BRIEF

Pursuant to 37 CFR 1.192, Appellants hereby file an appeal brief in the above-identified application. This Appeal Brief is accompanied by the requisite fee set forth in 37 CFR 1.17(f).

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(1) REAL PARTY IN INTEREST

The real party in interest is BSH Bosch und Siemens Hausgeräte GmbH.

(2) RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) STATUS OF CLAIMS

Claims 1 - 12, 15 - 17, and 34 are cancelled. Claims 13, 14, 18 - 33, and 35 - 37 are pending in the present application. Claims 32 and 33 have been allowed. Claims 35 - 37 are objected to. Claims 13, 14, and 18 - 31 have been finally rejected. The final rejections of claims 13, 14, and 18 - 31 are being appealed. Claims 13 and 25 are independent.

(4) STATUS OF AMENDMENTS

In response to the Final Rejection dated March 4, 2009, an Amendment was received in the US Patent Office on June 1, 2009. An Advisory Action mailed June 16, 2009 indicated that the proposed amendments set forth in the Amendment received in the US Patent Office on June 1, 2009 would not be entered. A Notice of Appeal was received in the US Patent Office on June 18, 2009. An Amendment After Final has been filed on even date herewith.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent Claim 13

A first exemplary embodiment, as defined, for example, by independent claim 13 of the present application, is directed to a temperature-indicating element for a refrigeration device having a backing in the form of a circular aluminum disk 1 (Page 4, line 29 - Page 5, line 1, and Figures 1 - 3). A thermochromic layer in the form of thermochromic pigmented film 2 is applied to the backing for indicating a predetermined desired temperature (Page 4, line 34 - Page 5, line 9, and Figures 1 and 2). The thermochromic layer is enclosed between the backing and a transparent protective layer in the form of a transparent casting compound 4 (Page 5, lines 11 - 17, and Figures 1 and 2).

The present invention is directed to make it possible for a user to rapidly ascertain whether such sufficiently low temperatures are reached in a particular area of a refrigerator with a temperature display element, whereupon the temperature display element has a thermochromic pigment - i.e., a pigment that undergoes a reversible change in color as a function of temperature - that is applied to a backing and the temperature display element can perform well in the constantly moist and cold environment of the refrigerator.

Independent Claim 25

Another exemplary embodiment, as defined, for example, by independent claim 25, is directed to a refrigeration device including a temperature-indicating element. The temperature-indicating element has a backing in the form of a circular aluminum disk 1 (Page 4, line 29 - Page 5, line 1, and Figures 1 - 3) and a thermochromic layer in the form of thermochromic pigmented film 2 is applied to the backing (Page 4, line 34 - Page 5, line 9, and Figures 1 and 2). The thermochromic layer has thermochromic pigment elements that change color at about +4° C for visually indicating a predetermined desired temperature (Page 5, lines 1 - 9, and Figures 1 and 2). The

thermochromic layer is enclosed between the backing and a transparent protective layer formed from a casting compound in the form of a transparent casting compound 4 (Page 5, lines 11 - 17, and Figures 1 and 2).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Whether claims 14, 19, 21, and 22 can be objected to on the ground that the added limitations of claim 14 are non-limiting?

B. Whether claims 13, 14, and 19 are anticipated under 35 U.S.C. §102(b) as being anticipated by US Patent No. 4,161,557 to Suzuki et al?

C. Whether claims 13, 14 and 19 - 22 are anticipated under 35 U.S.C. §102(b) by US Patent No. 4,738,549 to Plimpton?

D. Whether claim 18 is unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton?

E. Whether claims 23 and 24 are unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of US Patent No. 6,385,869 to MacWilliams et al?

F. Whether claims 25 - 28 are unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of GB Patent No. 2,318,870 to Hicken?

G. Whether claims 29 and 30 are unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of US Patent No. 6,385,869 to MacWilliams et al?

H. Whether claim 31 is unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of WO Patent No. 01/46661 to Marques et al?

(7) ARGUMENT

A) The objection to claims 14, 19, 21, and 22 on the ground that the added limitations of claim 14 are non-limiting is not proper

The Examiner objects to claims 14, 19, 21, and 22 on the ground that the added limitations of claim 14 are non-limiting. Claims 19, 21, and 22 each ultimately depend from claim 14. Claim 14 recites: "The temperature-indicating element according to Claim 13, including said transparent layer formed from a casting compound that is a selected one of a plastic room temperature curable material, a polyurethane material, a vacuum treated material which is then cured, or a casting compound that is none of a plastic room temperature curable material, a polyurethane material, and a vacuum treated material which is then cured." The Examiner asserts that the added limitations of claim 14 are non-limiting. However, Appellants submits that claim 14 is a proper claim for the reason that claim 14 adds the limitation that the transparent layer is formed from a casting compound - reference is had to the recitation in claim 14 as follows "said transparent layer formed from a casting compound." Accordingly, it is respectfully submitted that the objection to claims 14, 19, 21, and 22 on the ground that the added limitations of claim 14 are non-limiting is not a proper rejection and withdrawal of this objection is respectfully solicited.

B. The rejection of claims 13, 14, and 19 under 35 U.S.C. §102(b) as being anticipated by US Patent No. 4,161,557 to Suzuki et al is not a proper rejection

The Examiner rejects claims 13, 14, and 19 under 35 USC §102(b) as being anticipated by US Patent No. 4,161,557 to Suzuki et al. Suzuki et al '557 discloses a temperature-indicating element for a refrigeration device (Column 5, lines 22 - 24),

comprising: a backing (14), a thermochromic layer is applied to the backing for indicating a predetermined desired temperature (12 and 14) (Col. 4, lines 2 - 9), and the thermochromic layer is enclosed between the backing and a transparent protective layer (16).

The Examiner asserts that the Suzuki et al '557 patent discloses a temperature-indicating element for a refrigeration device. However, a closer analysis of the disclosure of the Suzuki et al '557 patent reveals that this reference does not, in fact, teach or disclose the features of the temperature-indicating element for a refrigeration device as recited in claim 13 of the present application. In contrast to the temperature indicating element recited in Claim 13 of the present application, the Suzuki et al '557 reference discloses a complex structure for polyvinyl butyral-liquid crystal film forming compositions and films that change color according to the temperatures encountered. There, component liquid crystal compositions in the form of 2, 3 or 4 component liquid crystal compositions are employed for providing a desired color response, a meso-phase or color-play temperature range at a desired temperature level and having a suitable width of temperature range and/or desired glass transition temperature. Preferably, the liquid crystals are selected to provide a color response in the meso-phase range changing with increasing temperature from red through orange, yellow, green and blue to violet in the visible spectrum as the results of the light reflections are scattering by the liquid crystals (see Col. 4, lines 2 - 9, of Suzuki et al '557). In contrast to the present invention, Suzuki et al '557 uses liquid crystals and neither teaches nor discloses the desirability of using thermochromic pigments as recited in independent claim 13 of the present application. Moreover, Suzuki et al '557 does not provide an indication that a particular temperature level has been achieved but instead provides an arrangement in which different ranges are provided for indication of a temperature in a particular range.

As further seen in the Suzuki et al '557 reference, compositions number 14 through 16 [from a table of compositions useful in the Suzuki et al '557 patent], are useful for, among other purposes, providing leak detection in refrigeration. However, such leak detection does not provide the temperature indication inside the refrigeration device as provided by the present invention. Suzuki et al '557 is directed to a chemical

formulation with no hint of use in a refrigeration setting and that hint is as outlined above, that a composition from a table of useful compositions in the Suzuki et al '557 is useful for leak detection in refrigeration. The Suzuki et al '557 reference provides no hint that its chemical formation can be used for a generalized temperature indicator in a refrigeration device such as a household refrigerator.

Accordingly, it is submitted that the rejection of claim 13 as anticipated under 35 U.S.C. §102(b) by Suzuki et al '557 is not proper and should be withdrawn. Moreover, claims 14 and 19 of the present application depend ultimately from independent claim 13 of the present application and the rejection of these claims as anticipated under 35 U.S.C. §102(b) by Suzuki et al '557 is not proper and should be withdrawn for at least the reasons set forth above and because these claims each recite additional patentable subject matter.

C. The rejection of claims 13, 14 and 19 - 22 as being anticipated under 35 U.S.C. §102(b) by US Patent No. 4,738,549 to Plimpton is not a proper rejection

The Examiner asserts that Plimpton '549 discloses a temperature-indicating element for a refrigeration device having the features recited in claim 13 of the present application.

Plimpton '549 discloses a thermometer 10 for immersion in a swimming pool (Col. 2, lines 63 - 65 and Figures1 - 4). Plimpton '549 discloses the use of liquid crystals to provide a temperature indication within a certain range, unlike the arrangement of the present invention that utilizes thermochromic pigments specifically chosen for the ability to change color at +4° C. Plimpton '549 provides liquid crystal agents that are operable from about 15° F to about 160° F (Col. 2, lines 18 - 20). The Plimpton '549 device includes a liquid crystal display that indicates temperature over a desired range (Column 3, line 7 - 10).

It is submitted that the subject matter recited by independent Claim 13 is not anticipated by Plimpton '549 under 35 USC §102(b). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is

+4° C and absent when the temperature is lower than +4° C. Furthermore, the Plimpton '549 apparatus lacks all of the features recited in claim 13 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 13 of the present application.

Accordingly, it is submitted that the rejection of claim 13 as anticipated under 35 U.S.C. §102(b) by Plimpton '549 is not proper and should be withdrawn. Moreover, claims 14 and 18 - 22 of the present application depend ultimately from independent claim 13 of the present application and the rejection of these claims as anticipated under 35 U.S.C. §102(b) by Plimpton '549 is not proper and should be withdrawn for at least the reasons set forth above and because these claims each recite additional patentable subject matter.

D. The rejection of claim 18 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton is not a proper rejection

Claim 18 of the present application recites that the temperature-indicating element for a refrigeration device recited in independent claim 13 of the present application includes a backing formed from an aluminum metal plate. The Examiner asserts that Plimpton '549 discloses a temperature-indicating element for a refrigeration device having the features recited in claim 18 of the present application.

Plimpton '549 discloses a thermometer 10 for immersion in a swimming pool (Col. 2, lines 63 - 65 and Figures1 - 4). Plimpton '549 discloses the use of liquid crystals to provide a temperature indication within a certain range, unlike the arrangement of the present invention that utilizes thermochromic pigments specifically chosen for the ability to change color at +4° C. Plimpton '549 provides liquid crystal agents that are operable from about 15° F to about 160° F (Col. 2, lines 18 - 20). The Plimpton '549 device includes a liquid crystal display that indicates temperature over a desired range (Column 3, line 7 - 10).

It is submitted that the subject matter recited by independent claim 13 and claim 18 is not anticipated by Plimpton '549 under 35 USC §102(b). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is +4° C and absent when the temperature is lower than +4° C. Furthermore, the Plimpton '549 apparatus lacks all of the features recited in claim 13 and claim 18 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 13 of the present application.

Accordingly, it is submitted that the rejection of claim 18 as anticipated under 35 U.S.C. §102(b) by Plimpton '549 is not proper and should be withdrawn.

E. The rejection of claims 23 and 24 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of US Patent No. 6,385,869 to MacWilliams et al is not a proper rejection

Claim 23 of the present application recites that the temperature-indicating element for a refrigeration device recited in independent claim 13 of the present application includes a thermochromic layer provided with an orientation mark discernible at room temperature. Claim 24 of the present application recites that the temperature-indicating element for a refrigeration device recited in claim 23 of the present application includes a complementary mark complementary to the orientation mark of the thermochromic layer. The Examiner asserts that Plimpton '549 teaches the temperature-indicating element for a refrigeration device recited in claim 23 and claim 24 of the present application except for a thermochromic layer provided with an orientation mark discernible at room temperature. The Examiner further asserts, however, that US Patent No. 6,385,869 to MacWilliams et al discloses a label and method for applying wherein the label (700) includes alignment features (703 and 704) having corresponding features on the underlying member (Col. 6, lines 26 - 45).

Plimpton '549 discloses a thermometer 10 for immersion in a swimming pool (Col. 2, lines 63 - 65 and Figures1 - 4). Plimpton '549 discloses the use of liquid crystals to provide a temperature indication within a certain range, unlike the arrangement of the present invention that utilizes thermochromic pigments specifically chosen for the ability to change color at +4° C. Plimpton '549 provides liquid crystal agents that are operable from about 15° F to about 160° F (Col. 2, lines 18 - 20). The Plimpton '549 device includes a liquid crystal display that indicates temperature over a desired range (Column 3, line 7 - 10).

It is submitted that the respective subject matter recited by either independent claim 13 and claim 18, or independent claim 13, claim 23, and claim 24, is not anticipated by Plimpton '549 under 35 USC §102(b). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is +4° C and absent when the temperature is lower than +4° C. Furthermore, the Plimpton

'549 apparatus lacks all of the features recited in claim 13 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 13 of the present application. US Patent No. 6,385,869 to MacWilliams et al fails to overcome the deficiencies of Plimpton '549.

Accordingly, it is submitted that the rejection of claims 23 and 24 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of US Patent No. 6,385,869 to MacWilliams et al is not proper and should be withdrawn.

F. The rejection of claims 25 - 28 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of GB Patent No. 2,318,870 to Hicken is not a proper rejection

The Examiner asserts that Plimpton '549 teaches the temperature-indicating element for a refrigeration device recited in claim 25 of the present application except for a thermochromic layer having thermochromic pigment elements that change color at about +4° C for visually indicating a predetermined desired temperature and a backing formed from an aluminum metal plate. The Examiner further asserts, however, that GB Patent No. 2,318,870 to Hicken discloses a temperature indicator and teaches thermochromic pigment that can be used to indicate defrosting preferably in the temperature range of 5°C to 7°C.

GB Patent No. 2,318,870 to Hicken discloses a poultry defrost indicator for determining whether an item of frozen poultry has been adequately defrosted prior to cooking (Page 1, lines 1 - 32, and the single figure of the drawings). A color change occurs between 5°C to 7°C.

Plimpton '549 discloses a thermometer 10 for immersion in a swimming pool (Col. 2, lines 63 - 65 and Figures1 - 4). Plimpton '549 discloses the use of liquid crystals to provide a temperature indication within a certain range, unlike the arrangement of the present invention that utilizes thermochromic pigments specifically chosen for the ability to change color at +4° C. Plimpton '549 provides liquid crystal agents that are operable from about 15° F to about 160° F (Col. 2, lines 18 - 20). The Plimpton '549 device includes a liquid crystal display that indicates temperature over a desired range (Column 3, line 7 - 10).

It is submitted that the respective subject matter recited by independent claim 25 is not anticipated by Plimpton '549 under 35 USC §102(b). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is +4° C and absent when the temperature is lower than +4° C. Furthermore, the Plimpton '549 apparatus lacks all of the features recited in claim 25 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 25 of the present application.

GB Patent No. 2,318,870 to Hicken fails to overcome the deficiencies of Plimpton '549. The Examiner asserts that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Plimpton '549 in view of GB Patent No. 2,318,870 to Hicken to replace the liquid crystal with the thermochromic pigments of GB Patent No. 2,318,870 to Hicken and to use a temperature of about 4°C as suggested by GB Patent No. 2,318,870 to Hicken. Appellants respectfully submit that such a conclusory statement is insufficient to provide a *prima facie* case for obviousness because the Examiner fails to provide an adequate rationale for combining the art as required by KSR International v. Teleflex Inc., 82 U.S.P.Q.2d 1385 (2007).

> "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." (In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) cited with approval in KSR.)

The Examiner does not provide any articulated reasoning with a rationale underpinning to support a legal conclusion of obviousness. A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. §103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id*. (quoting *W.L. Gore & Assocs. Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Since neither Plimpton '549 nor GB Patent No. 2,318,870 to Hicken discloses or suggests the temperature-indicating element for a refrigeration device recited in claim 25 of the present application, it is submitted that any teaching, suggestion, or incentive possibly derived from the prior art to combine Plimpton '549 and GB Patent No. 2,318,870 to Hicken in the manner suggested in the Office Action is only present with

hindsight judgment in view of the instant application. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. . . The references themselves must provide some teaching whereby the applicant's combination would have been obvious." *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (emphasis added by Appellants). Here, no such teaching is present in Plimpton '549, GB Patent No. 2,318,870 to Hicken, or any other prior art. It is a requirement for a *prima facie* case of obviousness that the prior art references must teach or suggest all the claim limitations. It is thus respectfully believed that the evidence adduced is insufficient to establish a *prima facie* case of obviousness with respect to claim 25.

Accordingly, it is submitted that the rejection of claim 25 under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of GB Patent No. 2,318,870 to Hicken is not proper and should be withdrawn. Moreover, claims 26 - 28 of the present application depend ultimately from independent claim 25 of the present application and the rejection of these claims under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton in view of GB Patent No. 2,318,870 to Hicken is not proper and should be withdrawn for at least the reasons set forth above and because these claims each recite additional patentable subject matter.

G. The rejection of claims 29 and 30 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of US Patent No. 6,385,869 to MacWilliams et al is not a proper rejection

It is submitted that the respective subject matter recited by either claim 29 or 30 is not taught or disclosed by Plimpton '549 and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of US Patent No. 6,385,869 to MacWilliams et al under 35 USC §103(a). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is +4° C and

absent when the temperature is lower than +4° C. Furthermore, the Plimpton '549 apparatus lacks all of the features recited in claim 25 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 25 of the present application.

GB Patent No. 2,318,870 to Hicken fails to overcome the deficiencies of Plimpton '549. The Examiner asserts that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Plimpton '549 in view of GB Patent No. 2,318,870 to Hicken to replace the liquid crystal with the thermochromic pigments of GB Patent No. 2,318,870 to Hicken and to use a temperature of about 4°C as suggested by GB Patent No. 2,318,870 to Hicken. Appellants respectfully submit that such a conclusory statement is insufficient to provide a *prima facie* case for obviousness because the Examiner fails to provide an adequate rationale for combining the art as required by KSR International v. Teleflex Inc., 82 U.S.P.Q.2d 1385 (2007).

> "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." (In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) cited with approval in KSR.)

The Examiner does not provide any articulated reasoning with a rationale underpinning to support a legal conclusion of obviousness. A critical step in analyzing

the patentability of claims pursuant to 35 U.S.C. §103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs. Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Since neither Plimpton '549 nor GB Patent No. 2,318,870 to Hicken discloses or suggests the temperature-indicating element for a refrigeration device recited in claim 25 of the present application, it is submitted that any teaching, suggestion, or incentive possibly derived from the prior art to combine Plimpton '549 and GB Patent No. 2,318,870 to Hicken in the manner suggested in the Office Action is only present with hindsight judgment in view of the instant application. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. . . The references themselves must provide some teaching whereby the applicant's combination would have been obvious." *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (emphasis added by Appellants). Here, no such teaching is present in Plimpton '549, GB Patent No. 2,318,870 to Hicken, or any other prior art. It is a requirement for a *prima facie* case of obviousness that the prior art references must teach or suggest all the claim limitations. It is thus respectfully believed that the evidence adduced is insufficient to establish a *prima facie* case of obviousness with respect to claim 25.

US Patent No. 6,385,869 to MacWilliams et al fails to overcome the deficiencies of Plimpton '549 or GB Patent No. 2,318,870 to Hicken.

Accordingly, it is submitted that the rejection of claims 29 and 30 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of US Patent No. 6,385,869 to MacWilliams et al is not proper and should be withdrawn.

H. The rejection of claim 31 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of WO Patent No. 01/46661 to Marques et al is not a proper rejection

Claim 31 of the present application recites that the temperature-indicating element for a refrigeration device recited in independent claim 25 of the present application includes a temperature zone in the refrigeration device and the temperature-indicating element is located in the temperature zone backing for indicating the predetermined desired temperature in the temperature zone. The Examiner asserts that Plimpton '549 and GB Patent No. 2,318,870 to Hicken teach the temperature-indicating element for a refrigeration device recited in claim 25 of the present application except for a temperature zone in the refrigeration device and the temperature-indicating element being located in the temperature zone backing for indicating the predetermined desired temperature in the temperature zone. The Examiner further asserts, however, that WO Patent No. 01/46661 to Marques et al discloses a refrigerator device having a temperature zone and the temperature-indicating element being located in the temperature zone backing for indicating the predetermined desired temperature in the temperature zone.

WO Patent No. 01/46661 to Marques et al discloses Display 10 formed by three demarcated regions 11, 12, 13, each one being defined by a heat sensitive element of the Master, liquid crystal or similar type, whose color is enhanced and distinguished when submitted to a determined temperature.

The demarcated regions 11, 12, 13 of the display 10 are on line, the central region 12 consisting of a heat sensitive element, whose color is activated and distinguished when submitted to a temperature corresponding to that recommended for the cabinet of the refrigeration appliance, in order to indicate to the user this temperature condition and, consequently, the adequate adjustment condition of the thermostat T. The left end region 11 consists of a heat sensitive element, whose color is activated and distinguished when submitted to a lower temperature, by a certain

value predetermined during project, in relation to the temperature recommended for the refrigeration appliance, indicating to the user the need for adjusting the thermostat, in order to provide less cold to the inside of the cabinet.

The right end region 13 consists of a heat sensitive element, whose color is activated and distinguished when submitted to a higher temperature in relation to the temperature recommended for the refrigeration appliance, indicating to the user the need for adjusting the thermostat T, in order to provide more cold to the inside of the cabinet.

It is submitted that the respective subject matter recited in claim 31 is not taught or disclosed by Plimpton '549 and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of WO Patent No. 01/46661 to Marques et al under 35 USC §103(a). For example, the Plimpton '549 device does not provide an indication that a specific temperature has been achieved or is lower by using a visual perceptible symbol that is present when the temperature is +4° C and absent when the temperature is lower than +4° C. Furthermore, the Plimpton '549 apparatus lacks all of the features recited in claim 25 of the present application. There is no backing such that the pool thermometer could be useful in a refrigerator. As noted, the present invention provides, in one aspect thereof, that an adhesive backing structure may be provided to permit placement of the thermometer wherever desired. However, according to Plimpton '549, a bore 45 through the casing 14 will allow attachment of a cord or the like so the thermometer may be hung from the side of a pool or hot tub to be drawn upward for temperature readings and then replaced into the water (Col. 4, lines 25 - 30). The Plimpton '549 reference thus provides, at most, a teaching that a pool thermometer can be secured via a tether cord and a user can draw up the pool thermometer via the tether cord to observe a temperature reading and this is not a teaching that would lead one of skill in the art to provide a temperature-indicating device in a refrigerator having the features as recited in claim 25 of the present application.

GB Patent No. 2,318,870 to Hicken fails to overcome the deficiencies of Plimpton '549. The Examiner asserts that it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified the device of Plimpton '549 in view of GB Patent No. 2,318,870 to Hicken to replace the liquid crystal with the

thermochromic pigments of GB Patent No. 2,318,870 to Hicken and to use a temperature of about 4°C as suggested by GB Patent No. 2,318,870 to Hicken. Appellants respectfully submit that such a conclusory statement is insufficient to provide a *prima facie* case for obviousness because the Examiner fails to provide an adequate rationale for combining the art as required by KSR International v. Teleflex Inc., 82 U.S.P.Q.2d 1385 (2007).

> "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness." (In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) cited with approval in KSR.)

The Examiner does not provide any articulated reasoning with a rationale underpinning to support a legal conclusion of obviousness. A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. §103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs. Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Since neither Plimpton '549 nor GB Patent No. 2,318,870 to Hicken discloses or suggests the temperature-indicating element for a refrigeration device recited in claim 25 of the present application, it is submitted that any teaching, suggestion, or incentive possibly derived from the prior art to combine Plimpton '549 and GB Patent No. 2,318,870 to Hicken in the manner suggested in the Office Action is only present with hindsight judgment in view of the instant application. "It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template and selecting elements from references to fill the gaps. . . The references themselves must provide some teaching whereby the

applicant's combination would have been obvious." *In re Gorman*, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991) (emphasis added by Appellants). Here, no such teaching is present in Plimpton '549, GB Patent No. 2,318,870 to Hicken, or any other prior art. It is a requirement for a *prima facie* case of obviousness that the prior art references must teach or suggest all the claim limitations. It is thus respectfully believed that the evidence adduced is insufficient to establish a *prima facie* case of obviousness with respect to claim 25.

WO Patent No. 01/46661 to Marques et al fails to overcome the deficiencies of Plimpton '549 or GB Patent No. 2,318,870 to Hicken.

Accordingly, it is submitted that the rejection of claim 31 as unpatentable under 35 U.S.C. §103(a) over US Patent No. 4,738,549 to Plimpton and GB Patent No. 2,318,870 to Hicken as applied to claims 25 - 28, and further in view of WO Patent No. 01/46661 to Marques et al is not proper and should be withdrawn.

(8) CONCLUSION

In view of the foregoing discussion, Appellants respectfully request reversal of the Examiner's rejection.

Respectfully submitted,

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CLAIMS APPENDIX

1-12. (Canceled)

13. (Rejected) A temperature-indicating element for a refrigeration device, comprising:

a backing;

a thermochromic layer applied to said backing for indicating a predetermined desired temperature; and

said thermochromic layer enclosed between said backing and a transparent protective layer.

14. (Rejected) The temperature-indicating element according to Claim 13, including said transparent layer formed from a casting compound that is a selected one of a plastic room temperature curable material, a polyurethane material, a vacuum treated material which is then cured, or a casting compound that is none of a plastic room temperature curable material, a polyurethane material, and a vacuum treated material which is then cured.

15. (Canceled)

16. (Canceled)

17. (Canceled)

18. (Rejected) The temperature-indicating element according to Claim 13, including said backing formed from an aluminum metal plate.

19. (Rejected) The temperature-indicating element according to Claim 14, including said backing enclosed between said casting compound and a film.

20. (Rejected) The temperature-indicating element according to Claim 13, including said backing embedded in a backing element and covered by said transparent layer.

21. (Rejected) The temperature-indicating element according to Claim 19, including said film printed on the side facing said casting compound.

22. (Rejected) The temperature-indicating element according to Claim 19, including a preferred orientation mark for mounting said element in the refrigeration device.

23. (Rejected) The temperature-indicating element according to Claim 13, including said thermochromic layer provided with an orientation mark discernible at room temperature.

24. (Rejected) The temperature-indicating element according to Claim 23, including a complementary mark complementary to said orientation mark of said thermochromic layer.

25. (Rejected) A refrigeration device, comprising:

a temperature-indicating element;

said temperature-indicating element including a backing;

a thermochromic layer applied to said backing, said thermochromic layer including thermochromic pigment elements that change color at about +4° C for visually indicating a predetermined desired temperature; and

said thermochromic layer enclosed between said backing and a transparent protective layer formed from a casting compound.

26. (Rejected) The refrigeration device according to Claim 25, including said backing formed from an aluminum metal plate.

27. (Rejected) The refrigeration device according to Claim 25, including said backing enclosed between said casting compound and a film.

28. (Rejected) The refrigeration device according to Claim 25, including a preferred orientation mark for mounting said element in the refrigeration device.

29. (Rejected) The refrigeration device according to Claim 28, including said thermochromic layer provided with an orientation mark discernible at room temperature.

30. (Rejected) The refrigeration device according to Claim 29, including said film provided with a complementary mark complementary to said orientation mark of said thermochromic layer.

31. (Rejected) The refrigeration device according to Claim 25, including a temperature zone in the refrigeration device and said temperature-indicating element located in said temperature zone backing for indicating said predetermined desired temperature in said temperature zone.

32. (Allowed) A temperature-indicating element for a refrigeration device, comprising:

a backing;

a thermochromic layer applied to said backing, said thermochromic layer having a pigment of a given color and changing to a pigment of a different color when the refrigeration device passes below a predetermined desired temperature;

said thermochromic layer enclosed between said backing and a transparent protective layer; and

an indicator display including a contrast indication element for indicating that the atmosphere within the refrigeration device has passed below said predetermined desired temperature, said contrast indication element being disposed relative to said thermochromic layer such that said contrast indication element visually contrasts with

the pigment of the different color and the extent of the visual contrast of said contrast indication element with the pigment of the different color being such that this visual contrast with the pigment of the different color is greater than a visual contrast of said contrast indication element with the pigment of the given color, whereby a user can perceive via the visual contrast of said contrast indication element with the pigment of the different color that the temperature of the refrigeration device has passed below said predetermined desired temperature.

33. (Allowed) The temperature-indicating element for a refrigeration device according to claim 32, wherein the extent of the visual contrast of said contrast indication element with the pigment of the different color is such that said contrast indication element is visually perceptible when the temperature of the refrigeration device has passed below said predetermined desired temperature and the visual contrast of said contrast indication element with the pigment of the given color, which is the respective pigment color of said thermochromic backing when the temperature of the refrigeration device is above said predetermined desired temperature, is so insignificant that said contrast indication element is substantially visually imperceptible.

34. (Canceled)

35. (Objected To) A refrigeration device comprising:

a body defining a refrigeration compartment for refrigerated storage of food items requiring a regulated environment for preservation, the regulated environment being maintained at no greater than the maximum temperature, the refrigeration compartment being delimited by a plurality of interior surfaces and the body having a food item support member in the refrigeration compartment for supporting food items in the regulated environment for maintaining food items at no greater than the maximum temperature; and

a temperature indication device disposed within the refrigeration compartment and subdividable into one portion and another portion, the temperature indication device including a temperature sensitive display element disposed in the one portion, the

temperature indication device having a display and the temperature indication device being disposed in the refrigeration compartment with the temperature sensitive display element sufficiently proximate to the food item support member that a display characteristic of the display of the temperature sensitive display element varies in correspondence with predetermined temperature changes in a food item supported on the food item support member, and the display of the temperature sensitive display element is operable to display human readable indicia having a display characteristic that varies in correspondence with a predetermined temperature change in a food item supported on the food item support member and the human readable indicia being displayed in the one portion of the temperature indication device in a manner such that human readable indicia is in an upright configuration for proper viewing when the one portion of the temperature indication device is oriented in a predetermined installed orientation within the refrigerator compartment, and the temperature indication device including an asymmetrical set up indicia for visually indicating to a user that the one portion of the temperature indication device is in the predetermined installed orientation, whereupon the human readable indicia is thereby in its upright configuration for proper viewing.

36. (Objected To) The refrigeration device according to Claim 35, wherein the temperature sensitive display element disposes the human readable indicia between a non-readable condition in which the human readable indicia is substantially unreadable by a user and a read available condition in which the human readable indicia is readable by a user and the temperature sensitive display element disposing the human readable indicia in a non-readable condition when the temperature is greater than the maximum temperature and disposing the human readable indicia in a read available condition when the temperature is no greater than the maximum temperature.

37. (Objected To) The refrigeration device according to Claim 36, wherein the asymettrical set up indicia is disposed in the other portion of the temperature indication device.

EVIDENCE APPENDIX

None

RELATED APPEALS APPENDIX

None